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AUTHOR Bellamy, Mary Louise, Ed.; Frame, Kathy, Ed.
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ABSTRACT

This publication is part of a larger project involving partnerships between high school biology teachers and neuroscientists. It contains neuroscience laboratories and classroom activities, most of which provide opportunities for students to design and conduct their own experiments. Each lab contains directions for both teachers and students and is based on the Learning Cycle approach. Directions for teachers include synopsis, level, student prior knowledge, integration into the biology curriculum and across the curriculum, objectives, getting ready, teacher background, safety notes, procedure, teaching tips, suggested modifications for students who are exceptional, references, and suggested reading. Directions for students include introduction, materials, safety notes, procedure, and analysis. Topics include the sense of hearing, the vestibular system, reflex responses, neural processing, neuronal plasticity, making sensory comparisons, pain pathways, stress and the nervous system, olfactory fatigue and memory, epilepsy, reaction time and neural circuitry, and visual perception. Appendices include formats used to develop the labs and classroom activities and scientists' guidelines for preparing activities for high school students. (JRH)

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